



Permethrin-Treated Clothing

What You Need to Know

Deployment Medication Information Sheets (DMIS) are provided by the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM). Written for soldiers and their families, they provide basic information on deployment medications that are intended as guidance only; consult your health care provider for more information.

What is permethrin?

- Permethrin is an insecticide used to kill a variety of insects that cause disease in humans.
- Permethrin is applied on clothing as a protective measure against blood-feeding arthropods such as mosquitoes, chigger mites, ticks, and sand flies.
- Unlike conventional repellents, permethrin primarily has a toxic effect on insects, in addition to acting as a contact repellent.
- Permethrin is not greasy, is completely odorless once it dries, and does not cause skin irritation in most humans.
- Permethrin is long lasting as a clothing treatment and resists washing and wear.
- Permethrin is available commercially as a 0.5% spray formulation. Clothing that is factory-treated with permethrin is also available commercially.
- Standard military clothing repellent formulations include a 0.5% permethrin aerosol spray (one application lasts through five to six washes), a 40% permethrin impregnation kit (IDA kit, the treatment lasts through approximately 50 washes, which is considered the combat life of the uniform), and a 40% permethrin two-gallon sprayer product (also lasts through 50 washes).

Who should use permethrin and how is it used?

- Numerous studies have confirmed the effectiveness of permethrin treated uniforms in preventing insect bites.
- Permethrin is most effective when used in combination with DEET application on the exposed skin.
- For added protection, permethrin may also be used on tents and bed nets.
- Permethrin should only be used on clothing, bed nets, and tents—never on skin. There are several methods for applying permethrin. Follow the manufacturer's instructions.
- The Centers for Disease Control and Prevention (CDC) recommends that people who may be exposed to disease-carrying insects, including children and pregnant women, and especially when traveling abroad, use both permethrin on their clothing and DEET on their exposed skin.

What does the military require?

Permethrin is required for use when on duty or deployed to environments with biting insects, especially if the insects are known to carry human diseases.

Are there any side effects?

- Occasionally, some individuals may experience itching, tingling, numbness, redness, or irritation. Usually, these conditions are mild, and diminish after the treated uniform has been washed one or more times. If these effects continue, inform your health care provider.
- Notify your health care provider if you develop a skin rash or burning or swelling of the skin.

Is there any reason I shouldn't use permethrin?

While permethrin is highly toxic to insects and other arthropods, it is among the least toxic insecticides to humans. Tell your health care provider if you have any pre-existing illness or allergies, or if skin irritation is persistent.

What if I'm pregnant or breast-feeding?

- Discuss the risks and benefits with your health care provider.
- Although less than 2% of permethrin is absorbed after topical administration, it is not known whether permethrin is excreted into breast milk. Consult your health care provider before breast-feeding.

You *can* avoid insect bites with permethrin!

- Wear loose clothing that covers most of your body.
- Treat your clothing with permethrin.
- For optimum protection, in addition to wearing permethrin-treated clothing, apply an insect repellent containing DEET (N,N-diethyl-meta-toluamide) to your exposed skin.
- Use a mosquito bed net. For added protection, spray the net with permethrin.
- Eliminate mosquito-breeding sites by emptying water collected in outdoor containers or debris.
- Remain in well-screened areas, particularly from dusk through dawn, the time when mosquitoes are most active.

Where can I get more information?

- Contact the health care provider at your military treatment facility.

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